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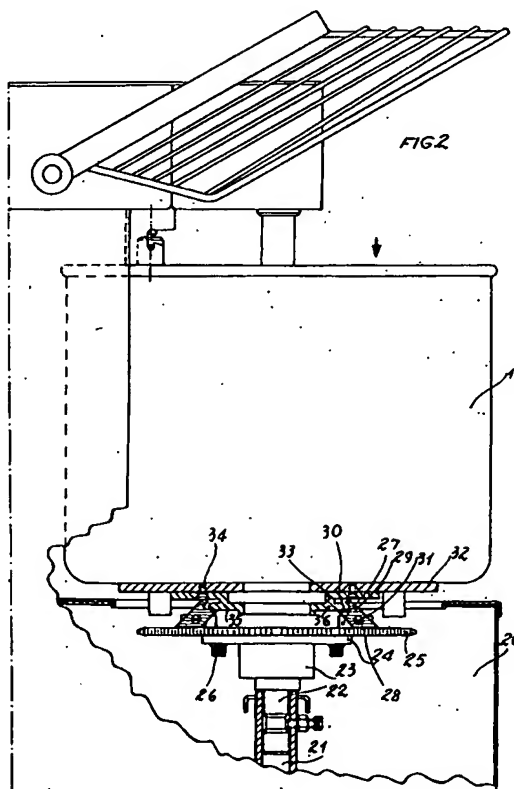
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(54) Food kneader with extractable tank.

(57) The device allows to extract the kneader tank (19) and consequently its cleaning with water jet. The kneader consists of a head (1) with quill (4), with a knob (11), fitted on its lower part with a rifle arm (7) which, carries out the knead. Said head (1) is furthermore foreseen with a fixed "spaccapasta" pivot (15) with a knob (18). The kneading tank (19) is characterized by an imposing structure consisting of an initial disk (32) and a lower plate (33) with mold binding crown (35) with canal (36) for its automatic hooking. For the tank (19) fixing, the kneader is foreseen with a bedplate (20) equipped with an additional bedplate (24) fitted with a crown wheel (25) with four supporting elements of the tank consisting of four boards (27) with sleds (29). By hand pressure the tank (19), with automatic coupling, is bound on the bedplate (20) on the four elements spring blocking system (29). For taking of the tank (19), the rifle arm (7) is at first taken away, after having unscrewed its knob (11), and the "spaccapasta" pivot (15) is unscrewed by lifting it by means of its knob (18). After the interchange of the two tools, the tank (19) can be lifted by taking it with hands and allowing its disk (35) to be extracted from the sleds (29).



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The invention refers to a system for extracting the tank for food kneaders which, on the working ending, allows its extraction as well as an easy and complete cleaning along with the kneading tools. These machines, which can be used in the industrial sectors, for communities and different business, particularly pizzerie, pastry-shops, restaurants, canteens and bakeries, used two lowering tools: a central pivot fixed to the upper holding structure that supports it, called "spaccapasta" (dough breaker), and a rifle arm which by turning in the same direction as the tank mixes the components by pushing them against the bottom thus performing their dough in the motion prosecution.

Actually the presence of these two tools, sinking into the kneading tank, cause its non-mobility and a heavy impediment for the cleaning operation of the whole unit. At the end of the working, after having extracted with hands the dough, it must proceed, in an evident uncomfortable way, to remove the residues from the tank and from the mixing tools that are inside the tank. This causes a considerable waste of time and an operative condition prejudicial from the hygienic point of view. This due to the fact that, since the parts cannot be washed with water jet, the operator must intervene with other means more difficult. The invention device avoids this inconvenience by using a new conception system which permits in sequence, by disengaging the two dough tools from their working position, to take away the tank from its motion support so to permit its cleaning with water jet.

Substantially, the invention device consists of a higher projecting part with head 1 with an imposing assembly 2 which in a seat 3 uses a quill 4, the upper end of which is kept by an elastic ring 5. On the lower end this quill 4 is fitted with a chuck 6 which supports a rifle arm 7 mounted by means of two pins 8 introducible with a quick clutch into the two bayonet attacks 9. On the quill 4 is axially introducible an axial pin 10 with knob 11 having an initial threaded part 12, into the corresponding volute thread 13, in order to avoid with its beating end that the rifle arm 7 gets out. Centrally in its seat 14 is foreseen the fixed pivot "spaccapasta" 15 placed on the ferrule couple 16, kept in position by flange 17 and fitted with catching knob 18. It is then foreseen the tank 19 fitted on bedplate 20 by means of a central support 21 coaxially keeping the shaft 22 integral with a supporting part 23 foresees on a bedplate 24 of a crown wheel 25 fixed with four bolts 26. On this crown wheel 25 are foreseen in a radial position four supporting elements for the tank consisting of four boards 27 with pivot 28 for movement of the sleds 29 with imposing canals 30 whereas the clockwise holdup is performed by a disk spring 31. This tank 19 shows a solidary imposing structure characterized by an

initial disk 32 with lower plate 33 fixed by means of eight screws 34 and with a lower mold binding crown 35 with canal 36 for imposing, with automatic hooking, on the four element system of spring blocking 29 of the tank. To disengage the tank 19, the knob 11 is slightly unscrewed, thus allowing to extract the rifle arm 7. Then to disengage pivot 15, it is lifted with knob 18 and backed out so as to take it out from the tank 19. By taking this tank with hands, it is lifted, thus allowing to extract the disk 35 from the sleds 29.

In a particular version, the movement of the tank 19 is given by a toothed chain 36 which engages the crown 25.

A form of execution of the invention is illustrated, in a merely indicative way, in the drawings of Tables 1, 2 and 3. With reference to table 1, fig. 1 is cutaway view of a particular of the section of the tank 19 in position, with indication of the direction arrow of the pushing impulse to perform with hands to get away the tank. In table 2, fig. 2 is cutaway view of the same operative assembly as the previous fig. 1 with direction arrow indicating the push sense to give with hands to hook the tank 19. In table 3 fig. 3 is a particular of longitudinal section of the operative head 1 with the rifle arm 7 in mixing position and the "spaccapasta" pivot 15.

In the realizations the shapes and typologies of the kneader may change like the operative tools. In the same way also the binding and feasibility of the tank and motion means may be different, replaced with other suitable ones for the specific requirements.

Claims

1. Food kneader with extractable tank, characterized by the fact that allows to extract the kneader tank (19) and consequently its cleaning with water jet. The kneader consists of a head (1) with quill (4), with a knob (11), fitted on its lower part with a rifle arm (7) which carries out the knead. Said head (1) is furthermore foreseen with a fixed "spaccapasta" pivot (15) with a knob (18). The kneading tank (19) is characterized by an imposing structure consisting of an initial disk (32) and a lower plate (33) with mold binding crown (35) with canal (36) for its automatic hooking. For the tank (19) fixing, the kneader is foreseen with a bedplate (20) equipped with an additional bedplate (24) fitted with a crown wheel (25) with four supporting elements of the tank consisting of four boards (27) with sleds (29). By hand pressure the tank (19), with automatic coupling, is bound on the bedplate (20) on the four elements spring blocking system (29). For taking of the tank (19), the rifle arm (7) is at first

taken away, after having unscrewed its knob (11), and the "spaccapasta" pivot (15) is unscrewed by lifting it by means of its knob (18). After the interchange of the two tools, the tank (19) can be lifted by taking it with hands and allowing its disk (35) to be extracted from the sleds (29).

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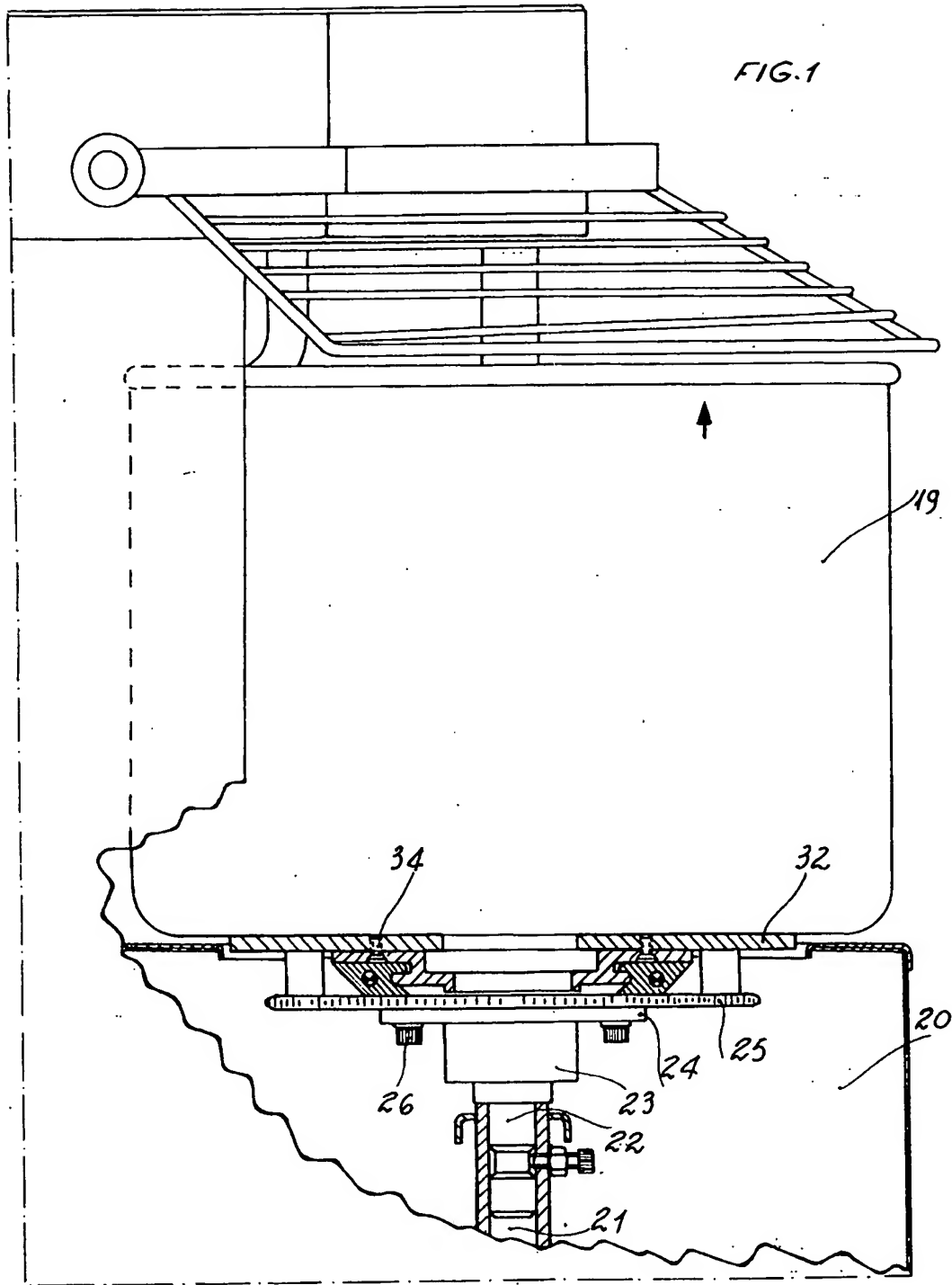
2. Food kneader with extractable tank, according to claim 1), characterized in that the head (1) is foreseen with an imposing assembly (2) which uses a quill (4) in its seat (3) retained in its upper end by an elastic ring (5). On its lower end said quill (4) is equipped with a chuck (6) supporting a rifle arm (7) to be fitted by means of a pair of pins (8) to be introduced with quick clutch into the two bayonet attacks (9). On the quill (4) is axially introduced an axial pin (10) with knob (11) having an initial threaded part (12) in the corresponding volute thread (13) in order to avoid with its beating end that the rifle arm (7) gets out. Centrally the head (1) in its seat (14) is foreseen with the fixed "spaccapasta" pivot (15) fitted on a pair of ferrule (16) kept in position by a flange (17) and fitted with a catching knob (18).

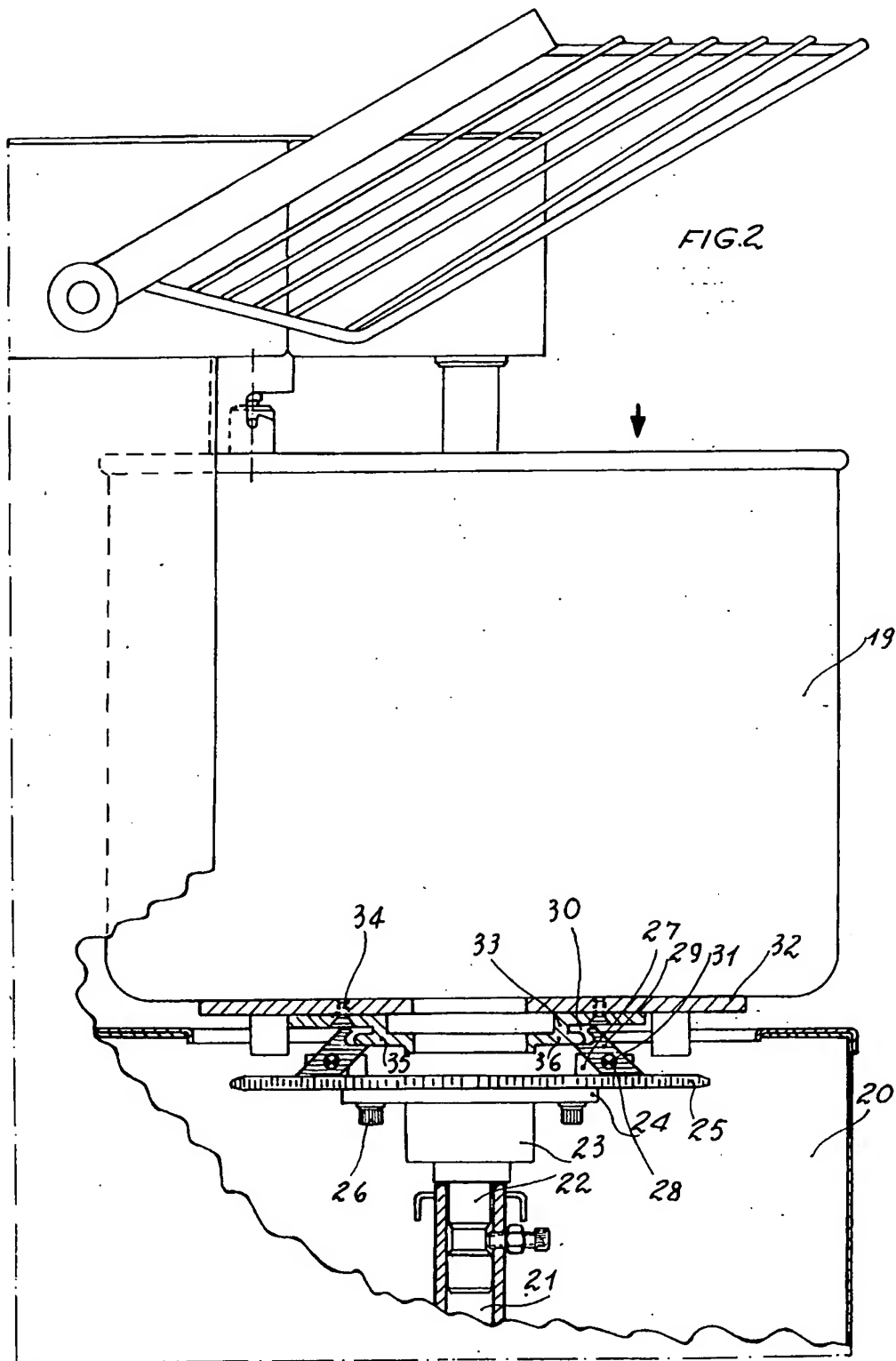
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3. Food kneader with extractable tank, according to claim 1), characterized in that the machine is foreseen with a bedplate (20) fitted with a central support coaxially bearing a shaft (22) integral with a supporting part (23) which foresees on bedplate (24) a crown wheel (25) fixed with four bolts (26). On this crown wheel (25) are foreseen, in a radial position, four supporting element for the tank (19) consisting of four boards (27), equipped with pivot (28) for movement of the sleds (29) with imposing canals (30) whereas the clockwise holdup is performed by a disk spring (31).

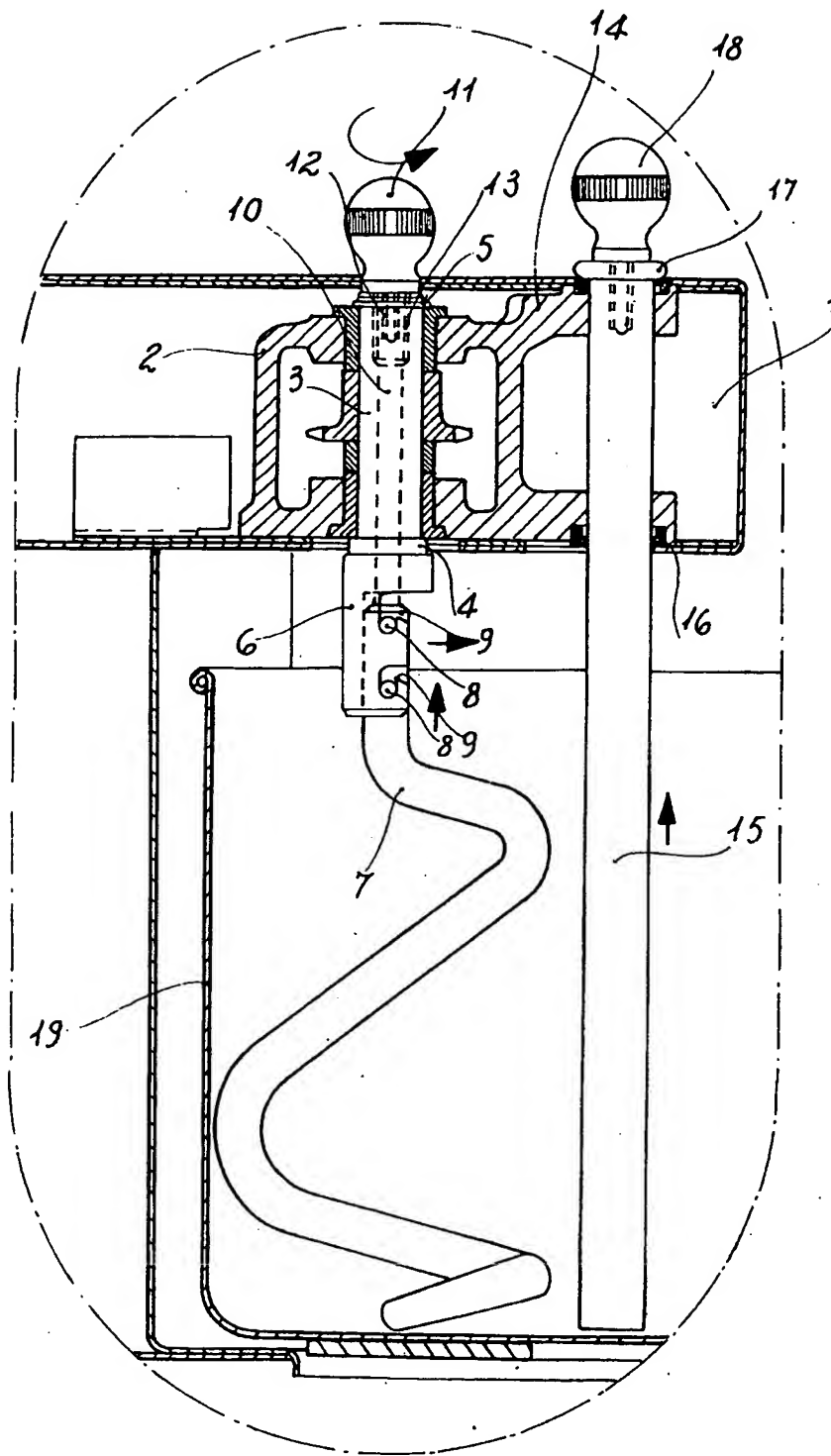
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4. Food kneader with extractable tank, according to claim 1), characterized in that the tank (19) on its bottom is fitted with an imposing structure consisting of an initial disk (32) with a lower plate (33) fixed by means of eight screws (34) and shows a lower mold binding crown (35) with canal (36) for its imposing with automatic hooking.

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5. Food kneader with extractable tank, according to claim 1), characterized in that in a version the movement of the tank (19) is given by a toothed chain (36) which engages the crown

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EUROPEAN SEARCH REPORT

Application Number

EP 91 83 0007

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int. Cl. 5)
A	DE-A-3 013 590 (POSTMEIER) * Figures *	1	A 21 C 1/02
A	DE-A-2 951 530 (COSTA) * Figures *	1,3-5	
A	US-A-3 700 250 (BAUTZ) * Abstract; figures *	1	
A	US-A-1 415 720 (SHORE)		
A	GB-A-1 166 195 (MONARCH)		
A	DE-A-3 151 532 (LICENTIA)		
			TECHNICAL FIELDS SEARCHED (Int. Cl. 5)
			A 21 C B 01 F B 23 B B 23 Q B 24 B F 16 D A 47 J
The present search report has been drawn up for all claims			
Place of search THE HAGUE		Date of completion of the search 05-09-1991	Examiner PEETERS S.
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons A : member of the same patent family, corresponding document			